

# Put Your Money Where Your Mouth Is! Explaining Collective Action Tendencies Through Group-Based Anger and Group Efficacy

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Insights from appraisal theories of emotion are used to integrate elements of theories on collective action. Three experiments with disadvantaged groups systematically manipulated procedural fairness (Study 1), emotional social support (Study 2), and instrumental social support (Study 3) to examine their effects on collective action tendencies through group-based anger and group efficacy. Results of structural equation modeling showed that procedural fairness and emotional social support affected the group-based anger pathway (reflecting emotion-focused coping), whereas instrumental social support affected the group efficacy pathway (reflecting problem-focused coping), constituting 2 distinct pathways to collective action tendencies. Analyses of the means suggest that collective action tendencies become stronger the more fellow group members “put their money where their mouth is.” The authors discuss how their dual pathway model integrates and extends elements of current approaches to collective action.

Sometimes individuals feel angry because their group is disadvantaged, and they act on it: They rush to the streets, organize petitions, or occupy buildings in collective protest (e.g., Tajfel, 1978; Walker & Mann, 1987). More often, however, group members become angry yet do little (Klandermans, 1997). Especially in situations where group members perceive themselves as having little efficacy to bring about change, collective action may be limited despite strong feelings of anger (Folger, 1987; Martin, Brickman, & Murray, 1984; Mummendey, Kessler, Klink, & Mielke, 1999). We think this suggests that group-based anger and group efficacy provide two distinct pathways to collective action. By conceptualizing these pathways as different forms of coping (Lazarus, 1991), we integrate specific elements from intergroup emotion theory (IET; E. R. Smith, 1993), social identity theory (SIT; Tajfel & Turner, 1979), relative deprivation theory (RDT; Runciman, 1966; Crosby, 1976; Folger, 1987), and Klandermans's (1997) resource mobilization model into a dual pathway model that enables the specification of these anger and efficacy pathways to collective action. We examine our proposed model in three experiments with collectively disadvantaged groups in which we manipulated appraisals of procedural fairness and social support to examine their effects on group-based anger, group efficacy, and collective action tendencies.

## Integrating Different Approaches to Collective Action

Collective action in response to collective disadvantage is a complicated phenomenon for which numerous explanations have been offered (see Klandermans, 1997). For example, RDT (e.g., Walker & Smith, 2002) and SIT (Tajfel & Turner, 1979) focus on the degree to which group members perceive their disadvantage as group based and unfair. Although concerned with these aspects of perceived disadvantage, IET (E. R. Smith, 1993) and some relative deprivation theorists (e.g., Folger, 1987) focus more on the experience of group-based emotions like anger as explanations of collective action. In contrast, instrumental-oriented approaches emphasize judgments of the costs and benefits of collective action (Klandermans, 1997; Simon et al., 1998) as well as group members' perceived efficacy to solve group-related problems such as collective disadvantage (Bandura, 1995, 1997; Mummendey et al., 1999). Rather than seeing each approach to collective action as offering a competing explanation, we think it is more likely that they are complementary. In fact, we think that the various explanations offered in previous theory and research fall neatly into two broad classes of explanation that map onto Lazarus's (1991) distinction between emotion-focused and problem-focused coping. An additional value of this approach to collective action is that it begs the question of how and where important contextual variables, such as social support, fit into the model. Conceptualizing social support and its relationship to these routes is a second major goal of our integrative enterprise.

## Emotion-Focused and Problem-Focused Coping

Lazarus's (1991, 2001) version of appraisal theory (see Scherer, Schorr, & Johnstone, 2001) conceptualizes appraisal, emotion, and action as the means by which people cope with events in their social world. According to Lazarus (2001), when engaged in problem-focused coping, “a person obtains information on which to act and mobilizes actions for the purpose of changing the

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reality," but, quite differently, "the emotion-focused function is aimed at regulating the emotions tied to the situation" (p. 48). If extrapolated to the group level, the notion of emotion-focused coping appears to fit with the IET, SIT, and RDT emphasis on group-based anger and its associated appraisal of unfairness or illegitimacy as explanations of collective action. In contrast, Lazarus's notion of problem-focused coping appears to fit with the emphasis on group efficacy and cost-benefit considerations in more instrumental approaches like that of Klandermans (1997) and Simon et al. (1998). Thus, conceptualizing group members' reactions to collective disadvantage as emotion-focused or problem-focused coping suggests that the competing explanations of collective action offered in previous approaches—group-based anger and group efficacy—may be complementary but distinct. As such, this conceptualization enables the specification of these anger and efficacy pathways to collective action, together with how relevant contextual variables such as social support feed into them.

### *Emotion-Focused Coping With Collective Disadvantage*

#### *Perceiving Disadvantage as Collective*

RDT proposes that when groups are disadvantaged, group members must perceive their disadvantage as collective to feel or do something about it (for a review, see Walker & Smith, 2002). From a SIT perspective, group members must also see their identity in collective terms in order to engage in collective action (Tajfel & Turner, 1979). Although a salient social identity is sometimes considered a precursor for the perception of collective disadvantage (e.g., Kawakami & Dion, 1992; H. J. Smith & Spears, 1996; H. J. Smith, Spears, & Oyen, 1994), collective disadvantage is itself likely to draw attention to groups and their unequal or unfair outcomes, rendering intergroup comparisons (Tajfel & Turner, 1979) and group identity (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987) salient. Especially in cases where no previous disadvantage of the group has been experienced and no social movement exists (unlike the models of Simon et al., 1998, and Klandermans, 1997, which are concerned with engagement in social movements), social identity salience and group level perception is likely to follow from rather than precede collective disadvantage (see Simon & Klandermans, 2001). Once group identity is salient, the IET perspective follows SIT and RDT by proposing that group members can appraise events that befall them in group rather than individual terms (E. R. Smith, 1993).

#### *Group-Based Appraisals: Unfairness and Illegitimacy*

Following IET, group-based appraisals of an event shape group-based emotions (E. R. Smith, 1993). In the context of collective disadvantage, RDT posits that judgments of fairness are central to whether people respond to collective disadvantage (Walker & Smith, 2002), whereas the social identity tradition discusses such appraisals in terms of perceived legitimacy (Tajfel, 1978; Tajfel & Turner, 1979). It is important to note that research from both perspectives shows that unfair or illegitimate collective disadvantage promotes collective action (e.g., Bettencourt, Charlton, Dorr, & Hume, 2001; Ellemers, Wilke, & van Knippenberg, 1993; Mummendey et al., 1999; Wright, Taylor, & Moghaddam, 1990). Additional research has pointed to the role of fairness in experi-

encing anger (e.g., Weiss, Suckow, & Cropanzano, 1999) and to the role of anger in driving action against those responsible (e.g., Averill, 1983; Mackie, Devos, & Smith, 2000; Miller, 2000).

#### *Group-Based Appraisal: Social Support*

Even if people perceive the situation as unfair and illegitimate, they may not always know whether fellow group members also perceive their collective disadvantage as unfair (Klandermans, 1997). This information about the social support for one's own opinions may help to define the experience as collective and shared and the situation as group based. Therefore, another group-based appraisal that may promote feelings of group-based anger is social support for one's opinion regarding group disadvantage (Mackie et al., 2000). In coping terms, appraising others as sharing one's appraisal of an event is called *emotional social support*, which is believed to be important to emotion-focused coping (Carver, Scheier, & Weintraub, 1989; Lazarus, 1991).

Although not conceptualized in terms of emotional social support, one recent study of group-based emotion provided evidence for the idea that such support also operates at the group level. Mackie et al. (2000) showed that group members' appraisal of their fellow members' social support in terms of their opinion explained both anger and the intention to engage in action against an opposing out-group. Although Mackie et al. argued that this kind of social support facilitated such action tendencies because it gave group members a sense of collective power to act, we think their results are much more consistent with the notion that emotional social support validates the group-based appraisal of the event, which also affirms emotional responses like anger. However, as we elaborate further below, appraising other group members as supportive of one's own dissent or dissatisfaction to validate one's opinion is not the same as appraising other group members as actually intending to engage in collective action.

#### *Group-Based Emotion: The Anger Pathway to Collective Action*

In sum, IET integrates appraisal theories of emotion (e.g., Frijda, 1986; C. A. Smith & Ellsworth, 1985;) with social identity and self-categorization theory (Tajfel & Turner, 1979; Turner et al., 1987) to account for group-based emotional experience. Appraisals like unfairness (e.g., Averill, 1983; Miller, 2000; Weiss et al., 1999) and emotional social support (Mackie et al., 2000) are believed to promote collective action because they promote action-oriented emotions like anger (Mackie et al., 2000; E. R. Smith, 1993).

Taken together, we think that different explanations offered by existing theory and research can be integrated into a model that views group-based anger as a form of emotion-focused coping and as one pathway to collective action. Our integrative model posits that collective disadvantage makes social identity salient, resulting in group-based appraisal and emotion. If the event is appraised as unfair, then group-based anger should be likely. In fact, social opinion support can also raise levels of anger by validating others' opinions about their collective disadvantage. This anger should, in turn, explain group members' tendencies to take collective action to address their collective disadvantage. As such, it represents an emotion-focused way of coping with collective disadvantage.

However, as the literature suggests, this is not the only route, and we now turn to the second pathway in our model.

### *Problem-Focused Coping With Collective Disadvantage*

Although group-based anger may help explain collective action tendencies among members of disadvantaged groups, it is clear that it is not the only explanation. For example, Folger (1987) argued that resentment, rather than anger, may even promote inaction because it is based on a perception that improvement of the group's condition is unlikely (see also Tyler, Boeckmann, Smith, & Huo, 1997). In explaining collective action, Folger thus focused on more instrumental concerns, like whether group members believe their group has the efficacy to take action (Bandura, 1997). Such instrumental explanations of collective action appear quite consistent with the notion of problem-focused coping, which is oriented toward instrumental strategies that are likely to improve one's situation (Carver et al., 1989; Lazarus, 1991). We think that such instrumental explanations may be thought of as a distinct problem-focused coping route to collective action.

### *Group Efficacy*

The definition of *group efficacy* is one's collective belief that group-related problems can be solved by collective effort (Bandura, 1995, 1997). The social identity approach, through its contrast with interdependence and realistic conflict theories, might appear to downplay instrumental explanations, although the focus on social change strategies and beliefs arguably involves instrumental aspects (Tajfel, 1978; see also Scheepers, Spears, Doosje, & Manstead, 2002). Consistent with this, SIT suggests that collective action among the disadvantaged is most likely when group members perceive their disadvantage as "unstable," implying chances of social change (e.g., Bettencourt et al., 2001; Doosje, Spears, & Ellemers, 2002; Ellemers, van Knippenberg, & Wilke, 1990). To some degree, perceiving collective disadvantage as unstable implies a belief that the group is able to address their collective disadvantage through collective effort (e.g., Mummendey et al., 1999; see also Tajfel & Turner, 1979). Indeed, research has shown group efficacy to be a robust explanation of collective action against disadvantage (Folger, 1987; Mummendey et al., 1999; H. J. Smith & Kessler, in press).

### *Instrumental Social Support*

Although social support is not the same as instability, it too can be considered as a potential mobilization resource that helps strengthen group efficacy and promote social change through collective action (Klandermans, 1997). However, the social support in this case goes beyond mere knowledge that other group members share one's opinions of their collective disadvantage, considered in the emotional pathway to collective action. Here, support is instrumental insofar as it implies actual willingness to engage in collective action (to "put one's money where one's mouth is"). This instrumental explanation of collective action fits well with the role of *instrumental social support* in problem-focused coping (Carver et al., 1989; Lazarus, 1991), because this is conceptualized as gaining information and resources from others that can help improve one's situation. Thus, instrumental social

support is specific to fellow group members' willingness to engage in collective action, whereas emotional social support is specific to shared opinions and appraisals of a shared situation (e.g., Mackie et al., 2000). Instrumental social support in the form of perceiving other group members as willing to take collective action should increase group members' sense of group efficacy and promote collective action through this efficacy pathway.

As well as distinguishing two distinct pathways to collective action, then, we distinguish two distinct forms of social support (for a similar distinction, see Spears, Lea, Corneliussen, Postmes, & Ter Haar, 2002) that are primarily aligned with the two routes in our model. Emotional support (specifically operationalized as "opinion support") feeds more into the emotion-focused coping route, and instrumental support (specifically operationalized as "action support") feeds more into the problem-focused coping route to collective action.

## Summary and Hypotheses

In sum, our dual pathway model attempts a conceptual integration of elements of various explanations of collective action offered by SIT, IET, RDT, and Klandermans's (1997) resource mobilization model. Extrapolating the distinction between emotion-focused and problem-focused coping to the group level, our model proposes that existing conceptual explanations of collective action constitute two distinct pathways: through group-based anger and group efficacy. By integrating elements of existing explanations into these two pathways, we hope to show that both paths are complementary rather than competing explanations of collective action and that they implicate different types of social support.

Therefore, when collective disadvantage makes salient one's social identity, we predict that (a) group-based appraisal of procedural unfairness and emotional social support (i.e., social opinion support) promote collective action tendencies through group-based anger (i.e., the emotion-focused coping hypothesis), and (b) group-based appraisal of instrumental social support (i.e., social action support) promotes collective action tendencies through group efficacy (i.e., the problem-focused coping hypothesis). Moreover, (c) both group-based anger and group efficacy should independently predict collective action tendencies, constituting two distinct explanatory pathways (i.e., the dual pathway hypothesis). Given these predictions, it is important to note that (d) collective action tendencies should be highest when emotion-focused coping is accompanied by problem-focused coping or, in other words, when fellow group members actually put their money where their mouth is.

We report a series of three experiments in which we provided our participants with increasing degrees of coping information about a relevant intergroup context. In Study 1, we only provided information about (in-group or out-group) collective disadvantage and procedural fairness. In Study 2, we crossed information about procedural fairness with information about social opinion support under conditions of (in-group) collective disadvantage. Study 3 provided information about procedural fairness and social action support under conditions of (in-group) collective disadvantage and high opinion support. Note that each study provided progressively more coping information. This allowed us to examine our fourth main hypothesis: When emotion-focused coping is accompanied



by problem-focused coping, we expect the highest levels of collective action tendencies.

### Study 1

In Study 1, we investigated whether participants' feelings of group-based anger, their perceptions of group efficacy, and their collective action tendencies were affected by manipulating in-group (vs. out-group) collective disadvantage and procedural fairness or unfairness. Our aims were to test our three main hypotheses using analyses of variance (ANOVAs) to analyze differences between means and using structural equation modeling (SEM) to test our predictive model. More specifically, the design of Study 1 enabled us to test our prediction that in-group (and not out-group) deprivation should enhance social identity salience.

We used a socially and personally relevant issue for students at the University of Amsterdam. At the time of the study (January 2003), pessimistic economic expectancies in the Netherlands fed rumors in the Dutch media about large financial cuts in government support for universities. As a consequence, there was a debate over whether universities might decide to raise college fees to overcome these cuts. We manipulated whether students from the in-group (the University of Amsterdam) or from a relevant out-group (the Free University of Amsterdam) were collectively disadvantaged by their university board and whether this board treated them fairly or unfairly.

### Method

#### Participants, Design, and Procedure

Eighty-eight 1st-year students of psychology at the University of Amsterdam (72 women and 16 men, mean age 20 years) participated in an experiment at the University of Amsterdam in exchange for partial course credit. The experiment was disguised as a survey conducted by an independent research body. Participants were randomly allocated to one of the four experimental conditions, in a 2 (target of collective disadvantage: in-group vs. out-group)  $\times$  2 (procedure: fair vs. unfair) factorial design.<sup>1</sup>

On arrival, participants (4–8 per session) were welcomed and seated in separate cubicles. In each cubicle, the experimenter administered a paper-and-pencil questionnaire. Participants were asked to complete the survey by making choices on 7-point Likert-type scales with both poles anchored (e.g., 1 = *not at all*, 7 = *very much*). All participants read the following (the original test materials were in Dutch):

As you might have heard, there are government plans for financial cuts in all universities in the Netherlands. When these plans are executed, all universities will then have to solve the problem of wishing to maintain high levels of quality education while lacking sufficient funds to fulfill this wish.

In the in-group disadvantaged conditions, participants then read: "Therefore the University of Amsterdam has forwarded a plan to raise annual college fees for its students by 600 euros" (students in the Netherlands annually pay around €1,500, equaling around US\$2,000). In the out-group disadvantaged conditions, it was the Free University of Amsterdam that proposed this plan for its students. Then, in the unfair procedure conditions, participants read the following:

To illustrate this plan, University Board member J. Verhagen recently said in an interview, "Cuts are always a negative event, but what can we do about it? If our students want to maintain their high level of quality education, we think they should pay more. Moreover, we feel

that students do not understand the problems we are facing. Therefore we wish to make this decision without student approval."

In the fair procedure conditions, the last two lines were changed to "Moreover, we feel that students understand the problems we are facing. Therefore we wish to make this decision with student approval."<sup>2</sup>

#### Dependent Variables

**Manipulation checks.** Participants ticked one of two boxes with the name of a different university in each box to indicate their understanding of which university had forwarded the plan and which group of students (i.e., from the University of Amsterdam or the Free University) would be disadvantaged. We checked our procedural fairness manipulation with both a dichotomous item on whether participants believed they had been provided voice or not and with one item measuring procedural fairness ("I think that the way we have been treated by the Board is fair").

**Social identification.** We measured social identification as an indicator of social identity salience with three items (Cronbach's  $\alpha = .82$ ; i.e., "I view myself as a student/I feel connected to other students/I am glad to be a student of the University of Amsterdam").

**Group-based anger.** We measured group-based anger with four items derived from Mackie et al. (2000). We obtained a reliable scale ( $\alpha = .86$ ; i.e., "I feel angry/irritated/furious/displeased because of this proposal of the Board").

**Group efficacy.** We measured group efficacy with a single item (i.e., "I think together we are able to change this situation").

**Collective action tendencies.** We measured collective action tendencies with three items. These items formed a reliable scale ( $\alpha = .82$ ; i.e., "I would participate in a demonstration against this proposal," "I would participate in raising our collective voice to stop this proposal," "I would do something together with fellow students to stop this proposal").

**Social support.** We measured social opinion support with six items ( $\alpha = .90$ ; e.g., "I think other students from the University of Amsterdam disagree with the Board's proposal"). We measured social action support with one item (i.e., "I think other students from the University of Amsterdam are willing to do something against the Board's proposal"). Interrelations between dependent measures can be found in the Appendix.

### Results

#### Analyses of the Means

**Manipulation checks.** We found that all participants ticked the correct box regarding our manipulation of the target of collective disadvantage. However, 4 participants did not tick the correct box on the fairness manipulation check and were excluded from subsequent analyses. To check whether the fairness manipulation affected judgments of procedural fairness, we conducted an ANOVA on the procedural fairness item with deprivation and fairness as the independent variables, rendering only a main effect for the procedural fairness manipulation,  $F(1, 80) = 19.07$ ,  $p < .01$ ,  $\eta^2 = .19$ , such that participants in the unfair conditions

<sup>1</sup> In all three experiments we did not predict two-way interactions. Indeed, in all three experiments no interactions were found to be statistically significant.

<sup>2</sup> Research on procedural justice (for a review, see Lind & Tyler, 1988) has emphasized the importance of providing voice to people, because people who have voice tend to evaluate their outcomes more positively compared with people who are denied voice. We hypothesized that being denied voice would result in higher perceptions of unfairness and higher levels of group-based anger.

reported less fairness than participants in the fair conditions (see Table 1 for means and standard deviations). Thus, we succeeded in manipulating procedural fairness and the target of collective disadvantage.

**Social identification.** In line with our idea that in-group disadvantage would precede social identity salience, results of an ANOVA with target of disadvantage and fairness as the independent variables and social identification as the dependent variable revealed a target of disadvantage main effect,  $F(1, 80) = 5.31, p < .02, \eta^2 = .06$ , such that in-group disadvantage resulted in higher in-group identification ( $M = 5.30, SD = 1.26$ ) than out-group disadvantage ( $M = 4.70, SD = 1.08$ ). In contrast, we found no main effect of fairness on social identification,  $F(1, 80) = 0.87, p < .34, \eta^2 = .01$ . These results support the specific prediction of our model that in-group disadvantage increases social identity salience, because social identification can be considered an indicator of salience.

**Group-based anger.** An ANOVA with target of disadvantage and fairness as the independent variables and group-based anger as the dependent variable revealed a significant main effect of target of disadvantage,  $F(1, 80) = 7.44, p < .01, \eta^2 = .09$ , and a marginal main effect of procedural fairness,  $F(1, 80) = 2.95, p < .09, \eta^2 = .04$ . As expected, in-group disadvantage evoked higher levels of group-based anger than out-group disadvantage, and unfair procedures evoked somewhat higher levels of group-based anger than fair procedures.

**Group efficacy.** Another ANOVA with target of disadvantage and fairness as the independent variables and group efficacy as the dependent variable revealed no main effects: for fairness,  $F(1, 80) = 0.44, p < .51, \eta^2 = .005$ ; for target of disadvantage,  $F(1, 80) = 0.00, p < .95, \eta^2 = .001$ .

**Collective action tendencies.** An ANOVA with target of disadvantage and fairness as the independent variables and collective

action tendencies as the dependent variable failed to show any effects on collective action tendencies, both for fairness,  $F(1, 80) = 0.00, p < .97, \eta^2 = .001$ , and target of disadvantage,  $F(1, 80) = 0.93, p < .34, \eta^2 = .01$ .

**Social support.** We performed two ANOVAs with target of disadvantage and fairness as the independent variables and our measures of social opinion support and social action support as the dependent variables. The results revealed main effects of procedural fairness on perceived social opinion support,  $F(1, 80) = 25.13, p < .01, \eta^2 = .20$ , and of target of disadvantage on social action support,  $F(1, 80) = 4.81, p < .03, \eta^2 = .24$ . Inspection of the bivariate correlation between these dependent variables suggested that social opinion support was only moderately related to social action support (see the Appendix). However, the ANOVA results suggest, in line with our ideas, that both types of social support are involved in different processes. To examine these relations in the context of our predictive model, we turned to SEM.

## SEM

**Predictive model.** Using EQS 6.1 software (Bentler, 1995), we examined a model that represents our argument. The predictive model integrates our main hypotheses, predicting that group-based anger and group efficacy affect collective action tendencies directly and that procedural fairness and social opinion support affect group-based anger, whereas social action support affects group efficacy. Note that these appraisals are expected not to have direct effects on collective action tendencies. This means that we predict their effects to be fully mediated.

Because our predictions were tailored for conditions of in-group rather than out-group disadvantage, we fit the model for the in-group disadvantaged condition (see Figure 1A). This hypothesized model fit the data very well, with a small and unreliable chi-square value,  $\chi^2(4, N = 43) = 3.13, p < .54$ . Moreover, other fit indices also indicated excellent fit: comparative fit index (CFI) = 1.00, goodness-of-fit index (GFI) = 1.00, root-mean-square error of approximation (RMSEA) = .001 (see Hu & Bentler, 1999). In other words, our hypothesized variance-covariance matrix did not differ significantly from the original matrix. Moreover, the Lagrange multiplier test for model modification indicated that none of the fixed parameters (i.e., the direct relationships between appraisal of procedural fairness, social opinion support and social action support, and collective action tendencies, and the relationship between group-based anger and group efficacy) would improve model fit when included. Therefore, the full mediation assumption in our model with group-based anger and group efficacy as the distinct mediators is supported.

On the right-hand side of Figure 1A, we find evidence for the two predicted pathways to collective action tendencies through group-based anger and group efficacy. In the middle of Figure 1A, we find evidence for the mediating role of group-based anger between social action support and collective action tendencies. One can also observe full mediation by group efficacy between social action support and collective action tendencies. As predicted, the relation between action support and group efficacy is much stronger than between action support and group-based anger, which supports its predicted contribution to problem-focused coping.

Table 1  
Scores on Main Dependent Variables as a Function of In-Group Versus Out-Group Disadvantage and Fair Versus Unfair Procedure (Study 1)

Variable	In-group disadvantage		Out-group disadvantage	
	Unfair	Fair	Unfair	Fair
Procedural fairness				
M	1.63	3.45	1.91	2.68
SD	1.04	1.76	0.97	1.66
Social opinion support				
M	5.22	4.12	5.06	3.81
SD	0.68	1.06	0.82	1.61
Social action support				
M	5.30	5.32	4.61	4.86
SD	1.25	1.02	1.39	1.18
Group-based anger				
M	5.08	4.78	4.49	3.82
SD	1.52	1.04	1.39	1.12
Group efficacy				
M	5.00	5.10	4.90	5.15
SD	1.04	1.16	1.44	1.12
Collective action tendencies				
M	4.88	5.05	4.77	4.88
SD	1.60	1.44	1.12	1.19

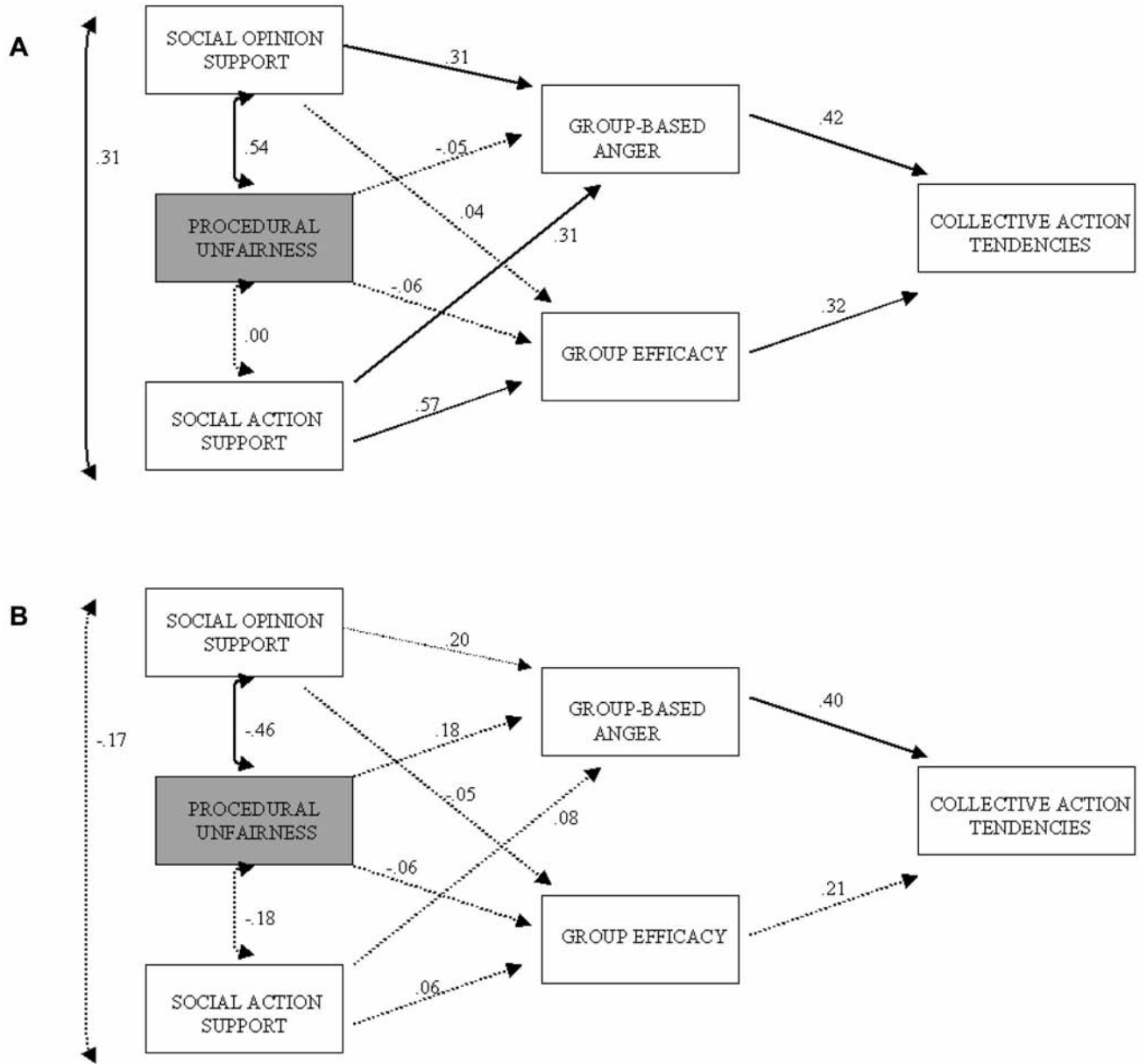


Figure 1. Structural equation model, Study 1. A: In-group disadvantage condition. B: Out-group disadvantage condition. Shaded boxes represent manipulated variables. Dashed lines represent nonsignificant pathways.

The path between social opinion support and group-based anger was also significant, whereas the path between social opinion support and group efficacy was not statistically distinguishable from zero. The Wald test for model modification confirmed that the latter parameter could be dropped from the model without worsening model fit. This suggests that as expected, social opinion support contributed to emotion-focused coping.

Furthermore, it can be observed that procedural fairness did not predict group efficacy. In fact, the Wald test for model modification showed that this parameter could be dropped from the model without worsening model fit. However, the relationship between fairness and group-based anger was, unexpectedly, nonsignificant.

Nonetheless, this can be explained by the finding that fairness and social opinion support were highly correlated. In fact, social opinion support mediated the relationship between procedural fairness and group-based anger. Although we did not specifically predict this finding, it is not very troublesome for the interpretation of our results. The finding that procedural fairness was related to group-based anger through social opinion support is consistent with the idea that social opinion support validates the appraisal of the event (i.e., unfair collective disadvantage) and that both procedural fairness and social opinion support contribute to emotion-focused coping.

All these results suggest that group-based anger and group

efficacy predict collective action tendencies when one's in-group is disadvantaged. This is in line with the dual pathway hypothesis and reflects the two ways of coping with collective disadvantage. Moreover, we found evidence for the idea that procedural fairness and social opinion support affected group-based anger (which supports the emotion-focused coping hypothesis) and for the relationship between social action support and group efficacy (which supports the problem-focused coping hypothesis).

*Alternative models.* We also tested the model fit for the out-group disadvantaged condition (see Figure 1B). Results of a group comparison test indicated that our model fit the in-group and out-group conditions significantly differently,  $\chi^2(13, N = 84) = 34.12, p < .01$ , with the most important difference between the in-group and out-group disadvantaged conditions being that for out-group disadvantage, only group-based anger significantly predicted collective action tendencies. In other words, when an out-group was disadvantaged, group efficacy was unrelated to collective action tendencies.

We then set up a second alternative model for the in-group disadvantaged condition. This was a model in which group efficacy did not predict collective action tendencies and in which group efficacy was no longer predicted by social action support. In other words, we eliminated the group efficacy pathway to collective action tendencies. This alternative model did not fit the data,  $\chi^2(6, N = 43) = 23.56, p < .01$  (CFI = .69, GFI = .84, RMSEA = .26). Despite the fact that the alternative model is based on more degrees of freedom, the fit of our model was better and also explained more variance on collective action tendencies ( $R^2 = .34$ ) than the predicted model ( $R^2 = .27$ ) and more variance on group efficacy (for the alternative model,  $R^2 = .06$ ; for the predicted model,  $R^2 = .35$ ). We also compared the Akaike's information criterion (AIC) values of our model and the alternative model, which revealed that this fit index was lower for our model (AIC = -4.87) than for the alternative model (AIC = 11.56). Lower AIC suggests better fit, and these results thus show superiority of our model above the alternative model.

We also fit the alternative model for the out-group disadvantaged condition. Given the nonsignificance of the group efficacy pathway to collective action tendencies in this condition, it was not surprising that the alternative model actually fit the data better,  $\chi^2(6, N = 41) = 9.95, p < .19$  (CFI = .78, GFI = .93, RMSEA = .13, AIC = -2.16). The predictions of our model thus only held under conditions of in-group disadvantage, which is in line with the result that in-group rather than out-group disadvantage increases social identity salience.

### Discussion

We successfully manipulated target of collective disadvantage and fair versus unfair procedures in the context of an unfavorable group outcome proposed by a university board. We found, in line with our integrative approach, that social identity was more salient when one's in-group, not out-group, was disadvantaged. Moreover, our integrative model fit the data much better under in-group than under out-group disadvantaged conditions. These results lend support for our integrative approach in the sense that in-group

disadvantage increased social identity salience, which is in line with IET's proposal that social identity salience sets the stage for group-based emotions, such as group-based anger, to occur (Mackie et al., 2000; E. R. Smith, 1993). Furthermore, our predictive model also fit the data better and explained more variance than the alternative model in which the efficacy pathway to collective action tendencies was omitted. As expected, it was only under conditions of in-group disadvantage that we found the two predicted pathways to collective action tendencies: through group-based anger and through group efficacy. In fact, as expected, social opinion support and social action support were primarily related to group-based anger and group efficacy, respectively. This suggests that our integrative approach is a valid one.

However, a possible caveat to Study 1 is that collective disadvantage was based on the societal uncertainty of future financial hardship for Dutch universities. It might be that such appraisals of uncertainty, or outcome probability (e.g., Roseman, 2001; Scherer, 2001) affected our results. Another possible weakness in Study 1 was that we assessed group efficacy with only a single item. Therefore, in Studies 2 and 3, we added another item to form a group efficacy scale, and we also changed the experimental paradigm in such a way that (in-group) collective disadvantage was made certain for all participants. A pilot study ( $N = 72$ ) using this paradigm indicated that (a) social identity was salient and did not differ between fairness conditions, and (b) group-based anger was evoked by this manipulation of procedural fairness. Given these similarities to the results of Study 1, we used this paradigm (to be described in more detail in Study 2) to manipulate social opinion support and procedural fairness in Study 2. By manipulating these variables, we could test their independent effects on group-based anger.

### Study 2

In Study 2, we investigated whether participants' feelings of group-based anger, their perceptions of group efficacy, and their collective action tendencies were affected by manipulating procedural fairness and social opinion support. Our aim was to test our three main hypotheses by means of ANOVAs and SEM. More specifically, we expected that procedural unfairness and social opinion support would affect group-based anger independent of each other, whereas social action support would affect group efficacy. We expected social identification not to differ between experimental conditions, because (in-group) collective disadvantage was held constant.

### Method

#### Participants, Design, and Procedure

Eighty-five 1st-year students (21 men and 64 women, mean age 20 years) participated in a series of two unrelated experiments at the University of Amsterdam in exchange for partial course credit. Participants were randomly allocated to one of the four conditions in a 2 (procedure: fair vs.



unfair)  $\times$  2 (opinion support against proposal: high vs. medium) factorial design.<sup>3</sup>

After being seated in separate cubicles, all participants read that a committee consisting of four professors of psychology had recently advanced a proposal. First, participants were informed that the proposal included an increase in the amount of lab testing time so that 1st-year students would be obliged to fulfill not only 40 hr of testing in their 1st year (at the University of Amsterdam, students must participate in 40 hr of lab testing in their 1st year) but also 20 hr in their 2nd year. To introduce our first manipulation, participants were told that the committee had already decided to either provide or deny voice to 1st-year students of psychology. To introduce our second manipulation, we first asked participants to fill out a questionnaire that required a response on a 7-point scale to measure agreement with the proposal and included an open space to state reasons for this opinion. After the experimenter collected the questionnaire, participants read on a computer screen that preliminary data analysis of the responses of 176 students revealed that either 95% (high opinion support condition) or 60% (medium opinion support condition) of the students disagreed strongly with the proposal. Moreover, after reading this information, participants were ostensibly randomly offered two questionnaires in which either "1" and "2" responses (indicating high support), or "3" and "4" responses (indicating medium support) were chosen. Reasons given were derived from the pilot study reported in the previous section. For example, in the high support condition, the reason given was "This is ridiculous! And just because our professors need more guinea pigs in their labs!", and the reason given in the medium support condition was "I don't mind spending more time in our professors' labs, but I just don't always like the experiments that much."<sup>4</sup> Thus, we manipulated social opinion support by means of the preliminary results on the computer screen and by means of the two false feedback questionnaires.

### Dependent Variables

**Manipulation checks.** Two checks assessed whether participants had understood being given voice or not and whether participants thought other in-group members disagreed with the unfavorable proposal. As in our first study, we measured procedural fairness with the same single item. We also measured social opinion support with a single item (e.g., "I think other first-year Psychology students from the University of Amsterdam disagree with the Committee's proposal").

**Social identification.** As in Study 1, we measured social identification as an indicator of social identity salience with the same three items ( $\alpha = .76$ ).

**Group-based anger.** The same four anger terms as in Study 1 were averaged into a group-based anger scale ( $\alpha = .88$ ).

**Group efficacy.** Compared with Study 1, we added one item (e.g., "I think we are able to stop this proposal") to measure group efficacy with a reliable two-item scale ( $\alpha = .66$ ). We note that given the small number of items for the scale, this value is satisfactory.

**Collective action tendencies.** We used the same three items on collective action tendencies as in Study 1, but also added another item (i.e., "I would participate in some form of collective action to stop this proposal"). This constituted a reliable scale ( $\alpha = .84$ ).

**Social support.** As in Study 1, we measured appraisal of social action support with a single item (for intercorrelations between dependent measures, see the Appendix).

## Results

### Analyses of the Means

**Manipulation checks.** Seventeen participants were excluded from further analysis because of failure to respond correctly to any of the two manipulation checks. Then, we performed two separate

ANOVAs on the procedural fairness item and the opinion support item, with procedural fairness and opinion support as the independent variables. As expected, there was only a main effect of fairness on the procedural fairness item,  $F(1, 64) = 205.35, p < .01, \eta^2 = .76$ , and only a main effect of opinion support on perceived opinion support,  $F(1, 64) = 14.79, p < .01, \eta^2 = .19$ . Participants in the unfairness condition perceived lower levels of fairness than participants in the fairness condition. Participants in the high support condition indicated higher levels of opinion support than participants in the medium support condition (see Table 2 for means and standard deviations). Thus, our manipulations were successful.

**Social identification.** We performed an ANOVA on the social identification scale with fairness and support as the independent variables. The results showed no significant effects of the independent variables on social identification: for support,  $F(1, 64) = 1.74, p < .19, \eta^2 = .006$ ; for fairness,  $F(1, 64) = 0.07, p < .80, \eta^2 = .01$ . The overall mean indicated that social identity was sufficiently salient ( $M = 4.68, SD = 1.44$ ).

**Group-based anger.** An ANOVA with our two independent variables on the group-based anger scale showed, in line with expectations, a significant main effect of fairness on the group-based anger scale,  $F(1, 64) = 13.69, p < .01, \eta^2 = .15$ , and a marginally significant main effect of opinion support on the group-based anger scale,  $F(1, 64) = 3.30, p < .07, \eta^2 = .05$ , with means in the expected direction. This suggests that indeed both procedural fairness and social opinion support independently contributed to emotion-focused coping.

**Group efficacy.** We performed another ANOVA with fairness and opinion support as the independent variables and group efficacy as the dependent variable. As expected, the results showed no significant main effects—for support,  $F(1, 64) = 0.37, p < .84, \eta^2 = .006$ ; for fairness,  $F(1, 64) = 0.04, p < .55, \eta^2 = .001$ —which supports the idea that procedural fairness and social opinion support are not related to problem-focused coping.

**Collective action tendencies.** An ANOVA with fairness and support as the independent variables and the collective action tendency scale as the dependent variable revealed a main effect of social opinion support,  $F(1, 64) = 4.88, p < .03, \eta^2 = .07$ , such that high support resulted in significantly higher collective action tendencies than medium support. This is in line with our idea that the more coping appraisal information is available, the higher collective action tendencies tend to be. The fairness manipulation did not produce a significant effect on collective action tendencies,  $F(1, 64) = 2.22, p < .14, \eta^2 = .03$ .

<sup>3</sup> We chose to manipulate high and medium opinion support as our manipulation levels because results from Study 1 and the pilot study indicated that most participants did not support the Board's proposal. Therefore, a low opinion support condition would have lacked credibility for our participants. Furthermore, we decided not to manipulate social opinion and action support within the same design, because crossing these variables would create a condition in which levels of social opinion support would be lower than levels of social action support, which would also seriously undermine the credibility of the experimental context.

<sup>4</sup> The other reasons were, for the high support condition, "I understand why the professors want this, but enough is enough," and for the medium support condition, "I don't think this proposal is either good or bad."



Table 2  
Scores on Main Dependent Variables as a Function of High Versus Medium Social Opinion Support and Fair Versus Unfair Procedure (Study 2)

Variable	High opinion support		Medium opinion support	
	Unfair	Fair	Unfair	Fair
Procedural fairness				
<i>M</i>	2.16	5.63	2.80	5.67
<i>SD</i>	1.07	0.96	0.68	0.84
Social opinion support				
<i>M</i>	4.89	4.69	3.33	3.61
<i>SD</i>	1.05	1.08	1.84	1.56
Social action support				
<i>M</i>	4.95	4.88	4.93	4.61
<i>SD</i>	0.98	1.15	0.80	1.54
Group-based anger				
<i>M</i>	4.79	3.94	4.42	3.31
<i>SD</i>	1.13	0.95	0.95	1.29
Group efficacy				
<i>M</i>	4.68	4.91	4.80	4.47
<i>SD</i>	1.19	1.17	0.82	1.05
Collective action tendencies				
<i>M</i>	4.02	4.03	3.51	3.59
<i>SD</i>	1.23	1.34	0.87	1.21

**Social support.** We performed another ANOVA with fairness and opinion support as the independent variables and social action support as the dependent variable. The results showed no significant effects on social action support—for support,  $F(1, 64) = 0.24$ ,  $p < .62$ ,  $\eta^2 = .004$ ; for fairness,  $F(1, 64) = 0.49$ ,  $p < .49$ ,  $\eta^2 = .008$ —which suggests that social opinion support is indeed distinct from social action support in the sense that (a) perceiving social opinion support does not necessarily translate into perceptions of

social action support and (b) these variables are involved in different processes. We turned to SEM to examine these processes.

### SEM

**Predictive model.** Using EQS 6.1 software, we again set up our predictive model (see Figure 2). Note, however, that this model assumes different circumstances compared with those in Study 1: Collective disadvantage is held constant (i.e., in-group disadvantage), and social opinion support is a manipulated and not a measured variable. Because procedural fairness and social opinion support are independently manipulated variables in Study 2, they thus cannot be correlated as in Study 1. Moreover, participants now had more coping appraisal information available compared with Study 1, and the experimental paradigm was different. Therefore, some discrepancy between the models of Study 1 and Study 2 is probable.

Nonetheless, the hypothesized model again fit the data very well, with a small and unreliable chi-square value,  $\chi^2(4, N = 68) = 3.87$ ,  $p < .42$ . Moreover, other fit indices also indicated excellent fit (CFI = 1.00, GFI = .98, RMSEA = .001). These results suggest that again our hypothesized variance–covariance matrix did not differ significantly from the original matrix. Moreover, the Lagrange multiplier test for model modification indicated that none of the fixed parameters would improve model fit when included. Therefore, the full mediation assumption in our model with group-based anger and group efficacy as the distinct mediators is supported.

This is illustrated in Figure 2: The right-hand side shows evidence for the two predicted pathways to collective action tendencies; the bottom left side shows that group efficacy mediates between social action support and collective action tendencies. This is similar to the results of Study 1 and supports the idea that social action support contributes to problem-focused coping.

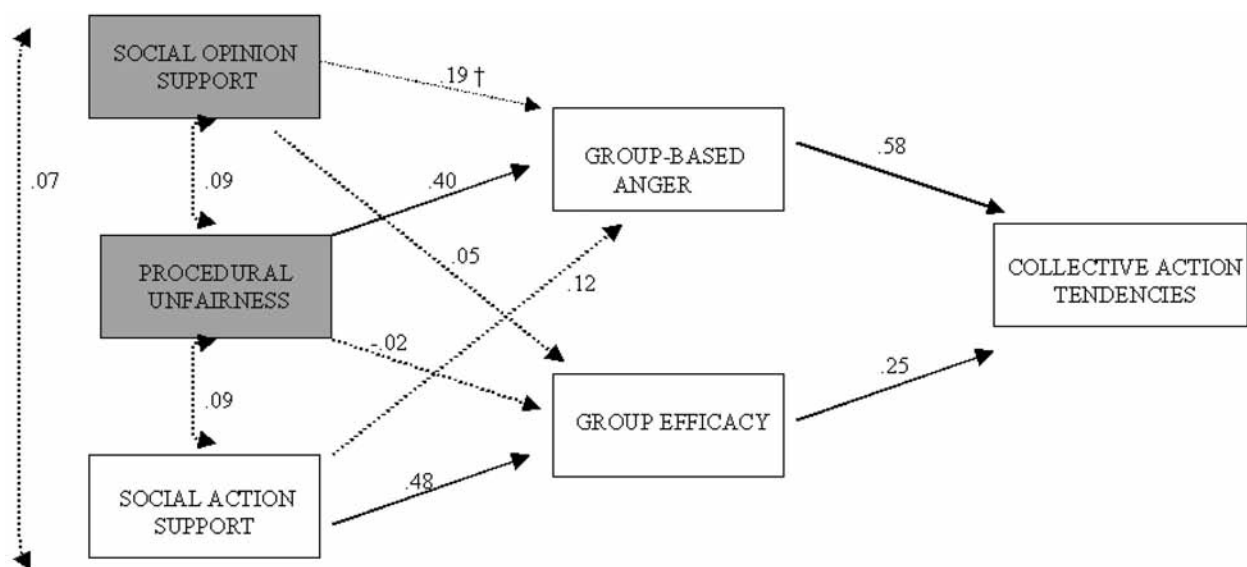


Figure 2. Structural equation model, Study 2. Shaded boxes represent manipulated variables. Dashed lines represent nonsignificant pathways. † $p < .10$ .

The path between social opinion support and group-based anger was only marginally significant. Nonetheless, the Wald test for model modification indicated that the path between social opinion support and group-based anger could not be dropped without worsening model fit. In contrast, the Wald test for model modification indicated that the nonsignificant path between social opinion support and group efficacy could be dropped without worsening model fit. These results are consistent with the idea that social opinion support contributes to emotion-focused coping rather than problem-focused coping. Moreover, the higher mean collective action tendencies in the high, as compared with the medium, support condition can thus be ascribed to emotion-focused coping.

Furthermore, the top left portion of Figure 2 shows evidence for the predicted mediating role of group-based anger between procedural fairness and collective action tendencies. Hence, after having manipulated both procedural fairness and social opinion support in Study 2, we find the predicted significant path from procedural fairness to group-based anger. As predicted and similar to the results of Study 1, the path between procedural fairness and group efficacy was not significant, and the Wald test for model modification confirmed that this parameter could be dropped without worsening model fit. Hence, procedural fairness did not contribute to problem-focused coping.

In sum, our predictive model fit the data well in Study 2. This suggests that group-based anger and group efficacy both predict collective action tendencies, which corroborates the dual pathway hypothesis. Moreover, we also found support for the predicted relationships between procedural fairness and group-based anger, social opinion support and group-based anger (both of which support the emotion-focused coping hypothesis), and between social action support and group efficacy (which supports the problem-focused coping hypothesis). All these results strongly suggest that our integrative approach is a valid one.

*Alternative model.* We then set up the alternative model, in which group efficacy did not predict collective action tendencies and in which group efficacy was no longer predicted by social action support. In other words, we eliminated the pathway to collective action tendencies through group efficacy. This alternative model did not fit the data well,  $\chi^2(6, N = 68) = 28.02, p < .01$  (CFI = .66, GFI = .88, RMSEA = .23). Despite the fact that the alternative model has more degrees of freedom, our model fit the data better and explained more variance on collective action tendencies ( $R^2 = .43$ ) than the predicted model ( $R^2 = .38$ ). The predicted model also explained more variance on group efficacy ( $R^2 = .24$ ) than the alternative model ( $R^2 = .006$ ). Moreover, comparing the AIC value for our model (AIC = -4.13) with that of the alternative model (AIC = 16.02) also corroborated the evaluation of our model as superior to the alternative model.

### Discussion

Study 2 showed that we successfully manipulated procedural fairness and social opinion support. As in Study 1, our predictive model fit the data well, whereas we found worse fit for the alternative model in which the group efficacy pathway was omitted. We found the same two pathways to collective action tendencies as in Study 1: through group-based anger and group efficacy.

Moreover, in line with predictions, we found that procedural fairness and social opinion support independently affected group-based anger. In a similar vein, we again found mediation of group efficacy between social action support and collective action tendencies.

The results of Study 2 also suggest that our integrative model appears to be valid in different experimental settings. Moreover, the results of both Studies 1 and 2 suggest that a coping approach to collective action has the potential to integrate elements of different theories on collective action, both in terms of emotion-focused and problem-focused coping, but also in terms of social opinion support (i.e., emotional social support) and social action support (i.e., instrumental social support). However, these studies did not manipulate social action support in order to investigate the idea that when emotion-focused coping is accompanied by problem-focused coping, the highest levels of collective action tendencies should be found. Therefore, in Study 3, we provided collectively disadvantaged group members with additional information on social action support.

### Study 3

In Study 3, we investigated whether participants' feelings of group-based anger, their perceptions of group efficacy, and their collective action tendencies were affected by manipulating procedural fairness and social action support. Our aim was to test our three main hypotheses by means of ANOVAs and SEM. More specifically, we tested whether engaging in problem-focused coping would raise collective action tendencies. This would be indicated by showing higher levels of group efficacy and collective action tendencies in the high, as compared with the medium, social action support condition.

### Method

#### Participants, Design, and Procedure

One hundred 1st-year students of psychology at the University of Amsterdam (30 men, 70 women, mean age 20 years) participated in a series of two unrelated experiments at the University of Amsterdam in exchange for partial course credit. As in the previous studies, participants responded to a (bogus) survey conducted by an ostensibly independent research body. Participants were randomly allocated to one of four conditions, constituting a 2 (procedure: fair vs. unfair)  $\times$  2 (social action support: high vs. medium) factorial design.

The procedure was similar to the one followed in Study 2 with the exception that all participants were first given a brief data analysis of a survey regarding the opinion of 1st-year psychology students on the issue, in which the responses of 176 students revealed that around 95% of the students disagreed with the proposal (e.g., high social opinion support). Introducing our social action support manipulation, we asked participants to fill out a questionnaire that required responses on a 7-point scale to measure their action tendencies as a response to the proposal and included an open space to state reasons. After the questionnaire was collected, participants were given a preliminary data analysis of the current survey regarding these action tendencies of 1st-year psychology students on the issue, in which the responses of 176 students revealed that either 80%

(indicating high action support) or 40% (indicating medium action support) of the students actually intended to participate in collective action.<sup>5</sup>

Moreover, after reading this information, participants were supposedly randomly offered two questionnaires in which either “6” and “7” responses (high action support), or “3” and “4” responses (medium action support) were chosen. Reasons given in the high and medium support conditions were the same in Study 2 as those used in Study 1, although they were slightly adapted in terms of social action support. Thus, as in Study 2, we manipulated social support by means of the preliminary results on the computer screen and by means of the two false feedback questionnaires. After these manipulations, dependent measures were obtained.

### Dependent Variables

**Manipulation checks.** Two checks assessed whether participants had understood whether they had been given or denied voice in the decision and whether they had understood other in-group members' intentions to participate in collective action. Moreover, we measured procedural fairness and social action support with single items, similar to those used in Studies 1 and 2.

**Social identification.** As in Studies 1 and 2, we measured social identification as an indicator of social identity salience with three items ( $\alpha = .83$ ).

**Group-based anger.** The same anger terms used in Studies 1 and 2 were averaged into a group-based anger scale ( $\alpha = .91$ ).

**Group efficacy.** We measured group efficacy with the same two items as in Study 2 to constitute a reliable group efficacy scale ( $\alpha = .75$ ). Again, given the small number of items used for this scale, this value is satisfactory.

**Collective action tendencies.** We measured the same four collective action tendency items ( $\alpha = .88$ ) as in Study 2.

**Social support.** We measured social opinion support with the same item used in Study 2 (for intercorrelations between dependent measures, see the Appendix).

## Results

### Analyses of the Means

**Manipulation checks.** Eight participants were excluded from further analysis because of failure to respond correctly to either of the manipulation checks, and 1 participant was excluded because of the extremity of responses (i.e., standardized residual  $> 3$ ; Stevens, 1996). Then, we performed an ANOVA with procedural fairness and action support as the independent variables and the procedural fairness item as the dependent measure, which revealed only a highly significant main effect of procedural fairness,  $F(1, 87) = 110.44, p < .01, \eta^2 = .56$  (see Table 3 for means and standard deviations). As for the action support manipulation, another ANOVA on the action support item revealed only a significant main effect of action support,  $F(1, 87) = 68.30, p < .01, \eta^2 = .44$ , with means in the expected direction. Thus, we were successful in manipulating procedural fairness and social action support.

**Social identification.** We performed an ANOVA on the social identification scale, with action support and fairness as the independent variables. The results showed no significant main effects: for support,  $F(1, 87) = 1.20, p < .28, \eta^2 = .01$ ; for fairness,  $F(1, 87) = .02, p < .88, \eta^2 = .001$ . As in Study 2, a closer inspection of the means revealed that overall participants' social identity was sufficiently salient ( $M = 4.03, SD = 1.73$ ).

**Group-based anger.** We performed an ANOVA with procedural fairness and action support as the independent variables and

Table 3

*Scores on Main Dependent Variables as a Function of High Versus Medium Social Action Support and Fair Versus Unfair Procedure (Study 3)*

Variable	High action support		Medium action support	
	Unfair	Fair	Unfair	Fair
Procedural fairness				
<i>M</i>	2.17	5.04	2.68	5.50
<i>SD</i>	1.58	1.37	1.21	0.76
Social opinion support				
<i>M</i>	5.75	5.14	5.76	5.50
<i>SD</i>	1.11	0.97	0.71	0.95
Social action support				
<i>M</i>	5.63	5.72	3.05	3.35
<i>SD</i>	1.44	0.79	1.65	1.73
Group-based anger				
<i>M</i>	4.63	3.65	3.94	3.25
<i>SD</i>	1.35	1.25	1.19	1.30
Group efficacy				
<i>M</i>	5.23	5.38	4.43	5.10
<i>SD</i>	1.05	0.92	0.99	1.33
Collective action tendencies				
<i>M</i>	4.74	4.40	3.66	3.73
<i>SD</i>	1.55	1.69	1.35	1.54

group-based anger as the dependent variable. In line with the results of Studies 1 and 2, we found significant main effects of fairness,  $F(1, 87) = 9.82, p < .01, \eta^2 = .10$ , but also of action support on group-based anger,  $F(1, 87) = 4.22, p < .04, \eta^2 = .05$ . Hence, in line with the results of Studies 1 and 2, higher levels of unfairness resulted in higher levels of group-based anger in keeping with emotion-focused coping.

**Group efficacy.** In line with the earlier findings in Studies 1 and 2 that social action support contributes to problem-focused coping, we indeed found a main effect of action support on group efficacy,  $F(1, 87) = 5.70, p < .02, \eta^2 = .06$ . Inspection of the means indicated that higher levels of group efficacy were related to higher levels of action support. The effect of procedural fairness on group efficacy was marginal,  $F(1, 87) = 3.29, p < .07, \eta^2 = .04$ .

**Collective action tendencies.** We then performed an ANOVA with fairness and support as the independent variables and the collective action tendency scale as the dependent variable. As expected, the results showed a main effect of social action support on collective action tendencies,  $F(1, 87) = 7.30, p < .01, \eta^2 = .08$ , and no main effect of fairness on collective action tendencies,  $F(1, 87) = 0.18, p < .68, \eta^2 = .002$ . Inspection of the means revealed that high action support resulted in higher collective action tendencies than medium action support. This result supports

<sup>5</sup> In Study 3 we used somewhat lower percentages of support than in Study 2 while keeping the percentage of high opinion support constant (e.g., 95%). Our main reason for this is again a credibility issue. If percentages of opinion and action support were exactly the same, this would be quite odd to our participants. Therefore, we lowered the percentages somewhat. This is in line with our decision to manipulate opinion and action support in different experiments instead of in one experimental design.

our idea that engaging in problem-focused coping can result in higher levels of collective action tendencies.

**Social support.** We performed an ANOVA with fairness and action support as the independent variables and social opinion support as the dependent variable. Unexpectedly, we found a main effect of social action support on social opinion support,  $F(1, 87) = 4.97, p < .03, \eta^2 = .05$ . There was no effect of fairness on social opinion support,  $F(1, 87) = .88, p < .35, \eta^2 = .01$ . This means that our attempt to provide the same information to all participants about social opinion support was only partially successful, because higher levels of action support resulted in higher levels of opinion support. We turned to SEM in order to examine whether this effect of the social action support manipulation had consequences for our model.

### SEM

**Predictive model.** Using EQS 6.1 software, we again set up our predictive model (see Figure 3). Note that this model assumes different circumstances compared with those in Studies 1 and 2: Collective disadvantage was held constant (i.e., in-group disadvantage), we provided all participants with information indicating high social opinion support (although the ANOVA results suggested that opinion support was affected by the social action support manipulation), and social action support was now a manipulated, not a measured, variable. Therefore some discrepancy between the models of Studies 1 and 2 and Study 3 is probable.

Nonetheless, the hypothesized model again fit the data well, with an unreliable chi-square value,  $\chi^2(4, N = 91) = 5.33, p < .25$  (CFI = .98, GFI = .98, RMSEA = .06). These results suggest that our hypothesized variance-covariance matrix did not differ significantly from the original matrix. Moreover, the Lagrange multiplier test for model modification indicated that none of the fixed parameters would improve model fit when included. Therefore, the full mediation assumption in our model with group-based anger

and group efficacy as the distinct mediators is once more supported.

This is illustrated in Figure 3: The right-hand side shows the two pathways to collective action tendencies; the left-hand side shows the predicted mediating role of group-based anger between procedural fairness and collective action tendencies, whereas the path from fairness to group efficacy is not significant. This is in line with the results from Studies 1 and 2 that fairness should be more related to group-based anger than to group efficacy.

Although the path from social action support to group efficacy was marginal, the Wald test for model modification indicated that this pathway could not be dropped from the model without worsening model fit. This suggests that the pathway from action support to group efficacy is indeed important in the model. Moreover, the finding that mean-level collective action tendencies were higher in the high as compared with the medium action support condition also supports this conclusion. Indeed, this mean-level difference can be ascribed to problem-focused coping. Moreover, the significant path from social opinion support to group efficacy can be explained in a similar vein: Given the fact that the social action support manipulation affected social opinion support and group efficacy, we interpret the significant pathway between social opinion support and group efficacy as part of the indirect effect of the action support manipulation on group efficacy. This would also explain why the significant ANOVA main effect of action support on group efficacy turned marginal in the SEM analysis. Furthermore, Figure 3 also shows that the ANOVA main effect of social action support on group-based anger did not hold when we simultaneously estimated the parameters of our model using SEM. This is in line with our predictions, because social action support should mainly affect collective action tendencies through group efficacy.

**Alternative model.** More support for the idea that the pathway between social action support and group efficacy is important was found when the alternative model would not fit the data (because

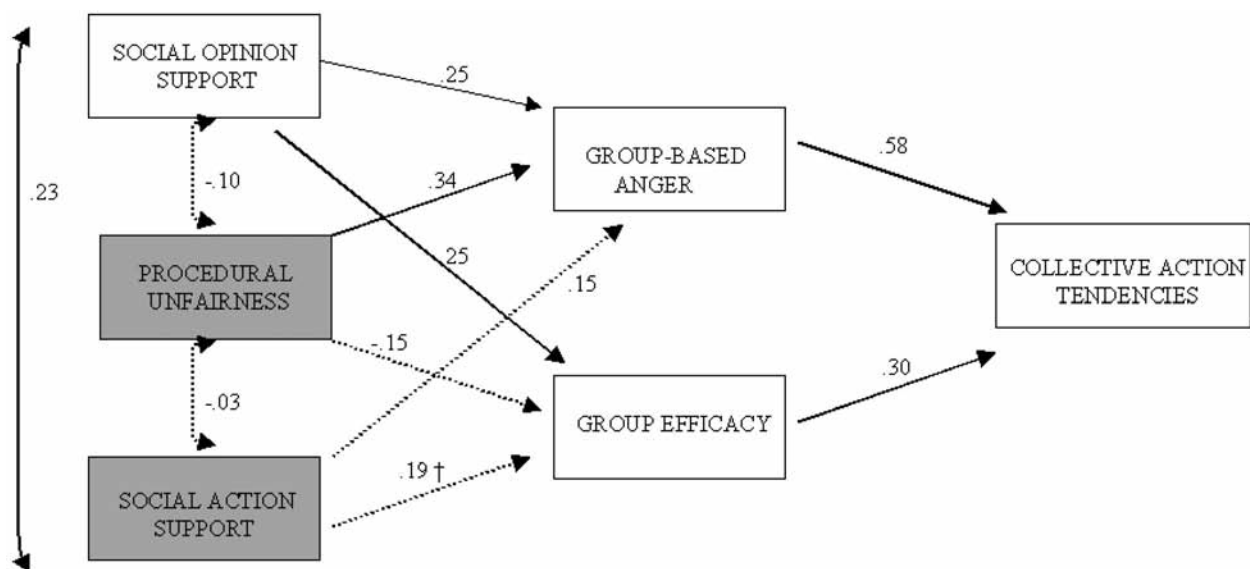


Figure 3. Structural equation model, Study 3. Shaded boxes represent manipulated variables. Dashed lines represent nonsignificant pathways. † $p < .10$ .



this model omits the group efficacy pathway to collective action tendencies). Indeed, this alternative model did not fit the data,  $\chi^2(6, N = 91) = 21.87, p = .01$  (CFI = .80, GFI = .93, RMSEA = .17), which implies that action support is an important direct predictor of group efficacy in our model. Despite the fact that the alternative model has more degrees of freedom, our model fit the data better and explained more variance ( $R^2 = .44$ ) on collective action tendencies than the alternative model ( $R^2 = .33$ ). Our model also predicted more variance on group efficacy ( $R^2 = .15$ ) than the alternative model ( $R^2 = .12$ ). Comparing the AIC values also confirmed that our predicted model was clearly superior (AIC = -2.67) to the alternative model (AIC = 9.87). These results again point to the importance of social action support as part of the problem-focused route to collective action tendencies.

### Discussion

Study 3 showed that high rather than medium social action support resulted in higher levels of group efficacy and collective action tendencies (which supports our fourth hypothesis). Our predictive model again showed the two predicted pathways to collective action tendencies (supporting the dual pathway hypothesis) and showed that procedural fairness positively affected group-based anger (supporting the emotion-focused coping hypothesis), whereas social action support affected group efficacy (supporting the problem-focused coping hypothesis). Although we provided the same information to all participants on social opinion support, it was significantly affected by the social action support manipulation. We interpret this effect to mean that when people perceive less strong action support than opinion support (i.e., only 40% of the disadvantaged group members), they may think that those who are not willing to engage in collective action may not have very strong opinions about their collective disadvantage. In other words, when our participants perceived that most of their group members were not intending to engage in collective action, they lowered their perception of opinion support. It is interesting to note that whereas in Study 2 the manipulation of social opinion support did not affect social action support, Study 3 showed that it does appear to work the other way around. In other words, perceiving instrumental support may also enhance perceptions of emotional support rather than vice versa.

Except for this issue, the results were in line with predictions and in line with the results of Studies 1 and 2. Our integrative model again showed better fit and explained more variance than the alternative model. Specifically, Study 3 showed that social action support affected group efficacy and collective action tendencies under conditions of high social opinion support. One important consequence of this line of reasoning is that one's tendency to act collectively will be stronger the more one knows that fellow group members will act on their opinions.

### General Discussion

The results of three experiments show that appraisals of procedural fairness and social opinion and social action support affected collective action tendencies through group-based anger and group efficacy. We found higher levels of collective action tendencies when social support was high rather than medium, both when social opinion support (Study 2) and action support (Study 3) were

manipulated. Whereas both procedural fairness and (emotional) social opinion support affected collective action tendencies through group-based anger, reflecting emotion-focused coping, social action support affected collective action tendencies through group efficacy, reflecting problem-focused coping. Indeed, our predictive model including the group efficacy pathway consistently fit better and explained more variance than an alternative model in which the group efficacy pathway to collective action was omitted. In other words, this integrative model adds value to models based on an intergroup emotion analysis alone (i.e., IET; Mackie et al., 2000; E. R. Smith, 1993), as well as providing more explanatory power than approaches focusing primarily on collective disadvantage and procedural unfairness associated with classic intergroup theories (e.g., SIT, RDT). This model also provides an analysis of how particular appraisals affect which of the two predicted pathways to collective action tendencies. Our model also demands that we consider how important contextual variables such as (appraisals of) social support relate to these two pathways. To this end, we distinguished between more emotion-relevant social opinion support and more instrumental social action support that orient to the emotion-focused and problem-focused group coping strategies, respectively. That these forms of social support aligned themselves (primarily) in predictable ways with the two routes further validates this model and explains how either route might be stimulated by related but conceptually distinct support information.

Our model extends insights from IET by including collective disadvantage as a basis for social identity salience on which group-based emotions like anger can occur as well as taking into account a more instrumental factor like group efficacy. Regarding the conceptualization of social support, our results qualify Mackie et al.'s (2000) argument that social opinion support is an appraisal of in-group strength by conceptualizing it as emotional social support, which contributes to emotion-focused coping. In fact, social action support (conceptualized as instrumental social support) seems more akin to an appraisal of in-group strength that contributes to problem-focused coping.

Our model also provides a more general and potentially more parsimonious view of collective action in relation to the Simon et al. (1998) and Klandermans (1997) approaches. These models have a clear instrumental component but lack a detailed emotional analysis, and they focus primarily on activism within social movements. According to our model, social movements actively targeting the individual are not necessary for collective action tendencies to emerge in collectively disadvantaged group members. In other words, our model can be placed at an earlier stage of Klandermans's four stages to collective action participation than the Simon et al. model. In this respect, our model may help to explain how people come to join or even form social movements that may facilitate their sense of emotional and instrumental social support. The present model also provides a more specific account of the distinctive affective experience of collective disadvantage that goes beyond the identity route of the Simon et al. model by offering an emotion-focused coping route to collective action. In the current model, we have considered group-based anger as the relevant action-based emotion fostering collective action, but in other contexts, other emotions may be relevant and contribute to emotion-focused coping. The point is that specifying an emotion-focused coping route allows us to distinguish multiple options and

outcomes, whereas affect associated with identity is less specific in its behavioral implications.

Our results thus show that both emotion-focused and problem-focused coping with collective disadvantage affect collective action tendencies. It seems that in order to mobilize fellow group members, people need to know not only whether others share their opinion (i.e., emotional social support) but also whether they actually stand united when the going gets tough (i.e., instrumental social support). This means that if people can engage in both emotion-focused and problem-focused coping rather than only emotion-focused coping, their collective action tendencies tend to be higher. This may be especially likely for instances of collective rather than individual disadvantage, because social action support may not be very important for individual action. Whereas protest intentions may thus be more likely a result of emotion-focused coping at the individual level, these may be the result of both emotion- and problem-focused coping at the intergroup level. Providing information to fellow group members that allow one to engage in both emotion-focused and problem-focused coping therefore seems advisable if one's aim is to mobilize collectively disadvantaged group members. Indeed, our results suggest that group members should let fellow members know that they will "put their money where their mouth is." In a similar vein, our results suggest that the use of unfair procedures by authorities may only increase levels of collective action tendencies against them through group-based anger.

It is important to acknowledge the limitations of the current model. We do not claim that the proposed model is "complete," because we have integrated only some elements of different approaches. More research is needed to enrich our model with other variables from these theories, such as the objective stability of intergroup status differences (see Mummendey et al., 1999; Tajfel & Turner, 1979) that may be important in shaping expectations about social change (Folger, 1987; Mummendey et al., 1999). The value of our dual path approach is that like the effects of social support, the model stimulates us to think of how such factors will relate to the two pathways to collective action. For example, because stability implies an external resource for social change (Klandermans, 1997), we would predict that it would operate primarily through the problem-focused coping route (see Mummendey et al., 1999; Van Zomeren, Spears, & Leach, 2004).

On a more general level, our findings relate to a distinction between instrumental and expressive functions of collective action (Van Zomeren et al., 2004; for a similar distinction in terms of in-group bias, see also Scheepers et al., 2002). For example, when group efficacy is perceived as high, collective action may serve an instrumental function: to facilitate social change. When group efficacy is perceived as low, collective action cannot serve such an instrumental function. However, the expression of group-based anger among fellow group members might constitute an indirect way to provoke social change by communicating the intensity of feeling and extent of support for action (e.g., Wright, 1997). Future research should address this facilitating effect of group-based anger on collective action through within-group communication. The social identity model of deindividuation effects (Reicher, Spears, & Postmes, 1995; Spears et al., 2002) might provide a good starting point for future research on the effects of the communication context (Ellemers, Van Dyck, Hinkle, & Jacobs, 2000; Van Zomeren et al., 2004) on group-based anger and collective

action. We are currently in the process of investigating these ideas. For instance, one might find that communication with in-group members can actually turn the expression of anger into instrumental strategies of mobilization and coordination during a riot (Reicher, 1984).

## General Conclusion

Research on intergroup relations has only recently begun to include insights from appraisal theories of emotion in theorizing about collective disadvantage and collective action (e.g., H. J. Smith & Kessler, in press). We hope to show in this article that integration of elements of both research domains can be fruitful. Relating elements from different approaches to group-based anger and group efficacy in terms of emotion- and problem-focused coping seems to us a first step toward a more integrative approach to understanding when and why people participate in collective action against collective disadvantage. We would not like the reader to conclude, however, that we are distinguishing a preferred rational route from a more irrational "emotive" path to collective behavior. Both routes may be rational in the evaluative sense to the extent that they make appropriate use of the (emotional and contextual) resources available, and in the longer term they may help each other. However, we think the analytic distinction between emotion- and problem-focused coping processes has proved useful in helping explain how, when, and why disadvantaged group members are moved to engage in collective action.

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(Appendix follows)

## Appendix

## Bivariate Correlation Matrices From All Three Studies

Table A1

Study 1: In-Group Disadvantaged Condition ( $N = 43$ )

Variable	1	2	3	4	5	6
1. Procedural unfairness	—	.54**	-.01	.12	-.05	.04
2. Social opinion support		—	.31*	.38*	.18	.13
3. Social action support			—	.41**	.59**	.44**
4. Group-based anger				—	.34*	.52**
5. Group efficacy					—	.45**
6. Collective action tendencies						—

\*  $p = .05$ . \*\*  $p = .01$ .

Table A2

Study 1: Out-Group Disadvantaged Condition ( $N = 41$ )

Variable	1	2	3	4	5	6
1. Procedural unfairness	—	.46**	-.11	.26	-.05	-.09
2. Social opinion support		—	-.17	.27	-.09	.12
3. Social action support			—	.41**	.08	.36*
4. Group-based anger				—	-.10	.38**
5. Group efficacy					—	.17
6. Collective action tendencies						—

\*  $p = .05$ . \*\*  $p = .01$ .

Table A3

Study 2: In-Group Disadvantaged Condition ( $N = 68$ )

Variable	1	2	3	4	5	6
1. Procedural unfairness	—	.09	.09	.43**	.03	.20
2. Social opinion support		—	.07	.24*	.08	.28*
3. Social action support			—	.17	.48**	.23
4. Group-based anger				—	.20	.62**
5. Group efficacy					—	.36**
6. Collective action tendencies						—

\*  $p < .05$ . \*\*  $p < .01$ .

Table A4

Study 3: Out-Group Disadvantaged Condition ( $N = 91$ )

Variable	1	2	3	4	5	6
1. Procedural unfairness	—	-.10	-.03	.31**	-.18	.04
2. Social opinion support		—	.23*	.25*	.31**	.37**
3. Social action support			—	.19	.25*	.28**
4. Group-based anger				—	.01	.58**
5. Group efficacy					—	.30**
6. Collective action tendencies						—

\*  $p < .05$ . \*\*  $p < .01$ .

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